



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,720	06/20/2003	Scott D. Shaw	40850.0100	5846
20322	7590	10/05/2004	EXAMINER CYGAN, MICHAEL T	
SNELL & WILMER ONE ARIZONA CENTER 400 EAST VAN BUREN PHOENIX, AZ 850040001			ART UNIT 2855	PAPER NUMBER

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,720

Applicant(s)

SHAW, SCOTT D.

Examiner

Michael Cygan

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-25 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-25 and 27-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 27 is objected to because of the following informalities: the phrase "said flow amplifier" lacks antecedent basis in parent claim 22. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 9, 12-14, 16, 18, 22-24, 27, and 28 are rejected under 35

U.S.C. 102(b) as being anticipated by Chriswell (US 5,808,188). Chriswell discloses the claimed invention, a flow testing system and method for using the system comprising flow amplifier subsystem [101], venturi [102], pipe coupling [131,136], output coupling subsystem [108,105], and pressure difference flow device [118] for determining defects in a test head H, and the use of preset endcaps having standard orifices for self-testing and calibration;

see Figures 2 and 5, and columns 3-4 and column 7 lines 4-20. Air is forced through the test head at approximately 25 inches H₂O, equal to approximately 1 psi; see Figures 8-9. The pressure p_2 through the test head is compared to the pressure p_1 through the base orifice at the same atmospheric condition; see column 4, lines 12-34. The measure of the pressure determines the size of the orifice, inherently determining if the orifice experiences blockage since any blockage of the orifice would necessarily be reflected in the pressure reading. The base orifice acts as a flow amplifier for the test head.

3. Claims 1, 7, 9-24, and 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Marple (US 6,647,758 B2). Marple discloses the claimed invention, a test fixture for measuring blockage in impactor cups and method for performing the measurement, in which air is drawn through a flow amplifier (orifice [32 and/or 38]), passed through a piping system (Figure 3) through impactor cups held in a seal plate to an output coupled to a vacuum pump [20] which provides a forced air flow. The pressures around multiple orifices are measured utilizing pressure pipes [118,119], which form venturi subsystems, which are used to determine flow rate (column 8 lines 11-15) and in a feedback loop with computer [134] to adjust flows (column 7, lines 60-67). These subsystems measure the pressure reduction when impactor cups are placed between the pipes, and the blockage in the cups is determined from the pressure measurements along with temperature and

pressure measurements; see columns 7-9. The cups may be loaded non-manually, with a fixture (i.e., with a robot); see column 7 lines 7-10. The end caps [24,116] may be exchanged before or after flow begins to test cups or determine flow rate; see columns 7-8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chriswell (US 5,808,188) in view of Henry (US 6,715,343 B1). Chriswell discloses the claimed invention except for the use of a filter valve. Henry discloses the use of a filter valve [114,196,198] in a system having monitored air flow (see abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a filter valve as taught by Henry in the invention taught by Chriswell to act as the valve and filter, since this would replace the filter of Chriswell with a filter valve allowing control of air flow without necessitating discontinuance of the pneumatic source; this is desirable since the source takes some time to reach a stable operating mode (Chriswell column 4, lines 15-16). Note that the filter of

Chriswell acts as a flow straightener; i.e., ensures laminar flow, see column 3 lines 54-56.

5. Claims 4, 6-8, 11, 25, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chriswell (US 5,808,188) in view of Kral (US 6,412,334 B1). Chriswell discloses orifice [123] which acts as a flow amplifier for providing a controlled air flow, and the plate [106] containing the orifice is sealed to be "air tight" to pipe [108] (see column 4 lines 19-23), thereby providing a compliance which acts as a "seal test device" as set forth in applicant's specification. The claimed "seal test device", when given its broadest reasonable definition in light of specification paragraphs [0061, 0063-0066], requires only that the device provide a seal. Other features, such as electrical signaling, are set forth as optional features. Since the claim only requires a device coupled to the flow amplifier and providing a seal, Chriswell is deemed to disclosed the claimed seal test device.

Chriswell teaches the claimed invention except for a proportional regulator having a check valve, temperature measurement and correction and the claimed intake pressure range and flow levels. With respect to the proportional regulator, Kral teaches a proportional regulator modulating a pneumatic source to a lower pressure (about 140-190 mmHg, approximately 3 psi) in a flow apparatus which detects the size of a leak orifice in a device having an interior flow path; see column 3 lines 25-26 and 44-52. It would

have been obvious to one having ordinary skill in the art at the time the invention was made to use a proportional regulator as taught by Kral in the invention taught by Chriswell, since such a regulator would provide the ability to be compatible with other air sources such as a compressed air canister, which may not require a waiting time to reach a stable operating mode.

With respect to temperature measurement and correction, Kral teaches a resistive temperature measurement device [54] for temperature compensation of measured pressure. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use temperature measurement and correction as taught by Kral in the invention taught by Chriswell, since this eliminates errors in pressure caused by variations in temperature.

With respect to the claimed flow ranges, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the claimed flow ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chriswell (US 5,808,188) in view of Adkins (US 5,214,969). Chriswell discloses the claimed invention except for an automatic positioning system.

Adkins teaches the use of a robot device [503] acting as an automatic object positioning system for testing objects; see Figure 1 and abstract. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a robot device acting as an automatic object positioning system for testing objects as taught by Adkins in the invention taught by Chriswell to position the test objects, since such automatic devices reduce operator error.

7. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chriswell (US 5,808,188) in view of Gotchel (US 4,311,037). Chriswell discloses the claimed invention except for the use of a pressure flow device having an ambient input port to facilitate flow calculations motivating a control system. Gotchel teaches the use of a pressure flow device having an ambient input port to facilitate flow calculations motivating a control system; see Figure 3 and column 5 lines 37-50. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a pressure flow device having an ambient input port to facilitate flow calculations motivating a control system as taught by Gotchel in the invention taught by Chriswell to measure and control flow, since Gotchel teaches that this advantageously enables a desired volumetric flow of air through the test device and orifice.

Response to Arguments

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Mitchell (US 2003/0010091 A1), Bertini (US 5,279,147), Rice (US 6,227,035 B1), Meyer (US 3,443,417), and Kelbrick (US 5,537,856).
10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
11. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.

In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cygan whose telephone number is (571) 272-2175. The examiner can normally be reached on 8:30-6 M-Th, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MICHAEL CYGAN, PH.D.
PRIMARY EXAMINER